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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/276,917	03/26/1999	KARTIK S CHANDRAN	CISCP100	2820

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EXAMINER
NGUYEN, DUSTIN

ART UNIT	PAPER NUMBER
2155	

DATE MAILED: 05/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/276,917	Applicant(s) CHANDRAN ET AL.	
	Examiner Dustin Nguyen	Art Unit 2156	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 March 1999* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Claims 1 - 27 are presented for examination.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 – 8, 10 – 19, and 21 - 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Nardin et al. (U.S. Patent 5317562).

4. As per claim 1, Nardin discloses the apparatus comprising:

one or more processors (e.g. Figure 2, item 120);

memory (i.e. buffer) coupled to at least one of the one or more processors (e.g. Figure 2, items 134 and 156);

a plurality of time-based queues logically configured on the memory (e.g. col 5, line 67 – col 6, line 3) and together defining a period of time with each time-based queue defining a separate increment of time within the period of time (e.g. col 5, line 19-30 and col 7, line 43-57), whereby each time-based queue is set to dequeue its contents at a separate time (e.g. col 2, line 30-36);

wherein the processor is configured or designed to direct (i) data or (ii) grants to transmit data to particular time-based queues (e.g. col 6, line 20-24)

based upon network traffic shaping delays prescribed for the data or grants to transmit the data (e.g. col 7, line 43-57).

5. As per claim 2, Nardin discloses the apparatus is a router (e.g. col 2, line 20-24).

6. As per claim 3, Nardin discloses the apparatus is a cable modem termination system (e.g. Figure 1, item 60 and 10).

7. As per claim 4, Nardin teaches the separate increments of time defined by the time-based queues are each of the same length (i.e. cell) (e.g. col 7, line 54-58 and col 4, line 25-28).

8. As per claim 5, Nardin teaches the separate increments of time defined by the time-based queues are configurable (e.g. col 8, line 26-32)

9. As per claim 6, Nardin teaches the periods of time defined by the plurality of time-based queues are configurable (e.g. col 2, line 54-56).

10. As per claim 7, Nardin discloses the one or more processors are further configured or designed to determine network traffic shaping delay (e.g. col 2, line 56-60).

11. As per claim 8, Nardin teaches the one or more processors are further configured or designed to discard data or a request to grant transmission of data if a network traffic delay is greater than the period of time defined by the plurality of time-based queues (e.g. col 7, line 18-19).

12. As per claim 10, Nardin teaches the one or more processors are further configured or designed to direct network packets of varying sizes to the time-based queues (e.g. Figure 4, item 206, and col 1, line 45-60).

13. As per claim 11, Nardin teaches the apparatus is configured or designed to simultaneously buffer, in a single time-based queue, data or grant to transmit data from a plurality of network nodes (e.g. col 4, line 29-34).

14. As per claims 12-14, they are rejected for similar reasons as stated above. Further more, Nardin teaches the means for determining how long to buffer data or grants to transmit data (e.g. col 6, line 7-10).

15. As per claim 15, Nardin discloses the method comprising:

determining that transmitting additional data to or from a network node will or will likely exceed a maximum allowed data flow for the network node (e.g. col 7, line 5-9).

selecting one of a plurality of time-based queues that together defined a period of time (e.g. col 6, line 7-10), with each time-based queue defining a separate increment of time within the period of time (e.g. col 7, line 43-57), whereby each time-based queue is set to dequeue its contents at a separate time associated with its increment of time (e.g. col 2, line 30-36); and

buffering the additional data or a grant to transmit the additional data in the selected one of the plurality of time-based queues (e.g. col 6, line 7-10).

16. As per claim 16, Nardin teaches the apparatus above further comprising receiving data addressed to the network node prior to determining that transmitting additional data will or will likely exceed the maximum allowed data flow, and wherein the data addressed to the network node is the additional data (e.g. col 6, line 15-29).

17. As per claim 17, Nardin teaches the apparatus comprising receiving data sent by the network node prior to determining that transmitting the additional data will or will

likely exceed the maximum allowed data flow, and wherein the data sent by the node is the additional data (e.g. col 5, line 51-54 and col 6, line 39-47).

18. As per claim 18, Nardin discloses the calculating a network capacity used by the network node if the additional data was to be transmitted, the calculation being performed prior to determining that transmitting the additional data will or will likely exceed the maximum allowed data flow (e.g. col 8, line 49-62).

19. As per claim 19, Nardin discloses the information of determining a delay until the additional data can be transmitted (e.g. col 8, line 49-55), wherein the determined delay is used to select the time-based queue (e.g. col 8, line 23-25).

20. As per claims 21 – 24, they are rejected for similar reasons as stated above.

21. As per claims 25 – 27, they are rejected for similar reasons as stated above. Furthermore, Nardin discloses the use of the elements and functions of the above being performed as program instructions (e.g. col 3, line 49-53).

Claim Rejections - 35 USC § 103

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

23. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nardin et al. (U.S. Patent 5317562) in view of Douceur et al. (U.S. Patent 6247061).

24. As per claim 9, Nardin does not disclose the information of one or more processors are further configured or designed to transmit, without buffering in a time-based queue, the data or issue grants to transmit data if there is no network traffic shaping delay. Douceur discloses the above limitation (e.g. Figure 5, item 114 and col 12, line 63-col 13, line 2). At the time the invention was made, it would have been obvious to a person skill in the art to combine Nardin and Douceur, because no queuing necessary if bandwidth resource is available, thereby preventing unnecessary traffic delay.

23. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nardin et al. (U.S. Patent 5317562) in view of Opalka et al. (U.S. Patent 6259699).

25. As per claim 20, Nardin does not disclose the time-based queue is selected by matching its time to dequeue with the delay determined for the additional data. Opalka discloses the above limitation (e.g. col 7, line 27-41). At the time the invention was made, it would have been obvious to a person skill in the art to combine Nardin and Opalka., because most queues have size limitation.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dustin Nguyen whose telephone number is (703) 305-5321. The examiner can normally be reached on Monday – Friday (8:00 – 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alvin Oberley can be reached on (703) 305-9716.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directly to the receptionist whose telephone number is (703) 305-3900.

Application/Control Number: 09/276917
Art Unit: 2156

Dustin Nguyen

DN

JOHN A. FOLLANSBEE
PRIMARY EXAMINER